

In-Person vs Tele-Infectious Disease Care: Is One Better?



Nupur Gupta, DO¹; Adit B. Sanghvi, MISM²; J. Ryan Bariola, MD¹; John W. Mellors, MD¹; Rima C. Abdel-Massih, MD^{1,3}

¹Division of Infectious Diseases, University of Pittsburgh Medical Center; ²UPMC Enterprises; ³Infectious Disease Connect, Inc

<u>Contact:</u> guptan8@upmc.edu

BACKGROUND

- Rural and community hospitals have difficulty attracting specialists especially ID physicians.
- Increasing adoption of standalone or adjunct tele-ID services have shown reduced LOS, decreased healthcare costs, decreased readmissions and mortality, and improved patient and provider satisfaction.^{1,2}
- However, limited reported data on how a tele-ID service compares to an in-person service.

QUESTIONS ADDRESSED

- Is there a difference in patient outcomes after a tele-ID service is adopted by rural hospitals that previously had in-person ID care?
- Can a tele-ID service make complex diagnoses compared to an in-person service?
- Is there an effect on antibiotic utilization with a tele-ID service compared to an inperson service?

METHODS

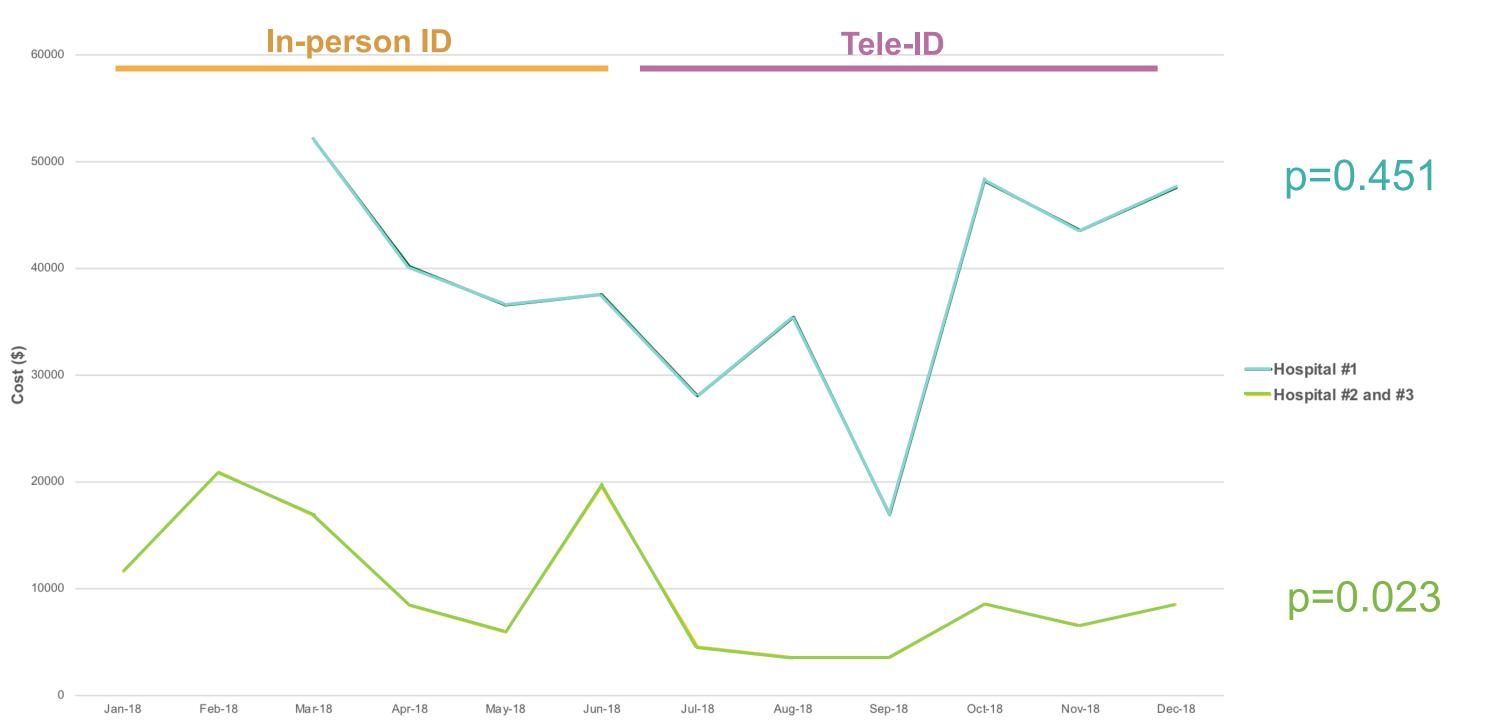
- Study Sites:
 - 3 rural Pennsylvania hospitals (total 432 beds)
 - Driving distance by car = 1 hour 40 minutes between facilities
 - Hospital #2 and #3 combined for data analysis
- In-person ID group (1/1/2018 6/30/2018):
 - In-person care provided by independent ID physician traveling daily between the 3 sites
- Tele-ID group (7/1/2018 12/30/2018):
 - Starting July 2018, all ID care assumed by a tele-ID service
 - One University ID faculty physician provided live audio-video and telephonic consults

RESULTS

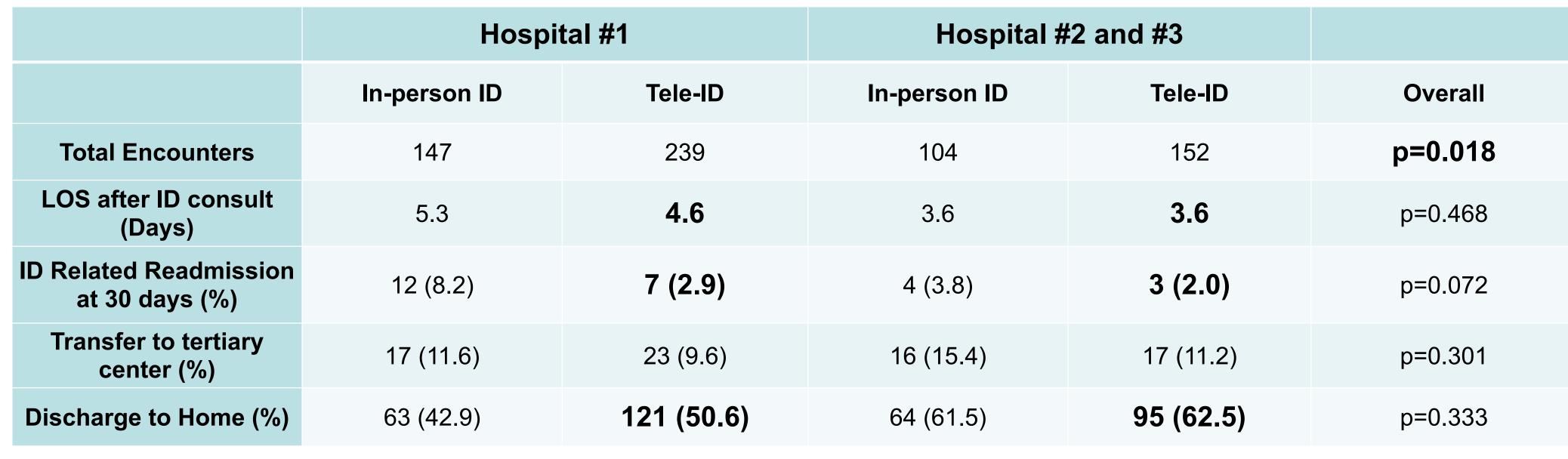
Characteristics of the Study Population					
	Hospital #1		Hospital #2 and #3		
	In-person ID	Tele-ID	In-person ID	Tele-ID	Overall
Total Encounters	147	239	104	152	642
Caucasian (%)	126 (85.7)	205 (85.8)	97 (93.2)	145 (95.4)	573 (89.3)
Female (%)	74 (50.3)	141 (59.0)	54 (51.9)	79 (51.9)	348 (54.2)
Age average (years)	67.4	66.7	66.5	67.3	67.0
BMI (average)	31.5	30.9	32.6	34.7	32.4
Comorbidity Score (average)*	5.4	5.8	6.4	7.0	6.2

* = Charlson Comorbidity Score

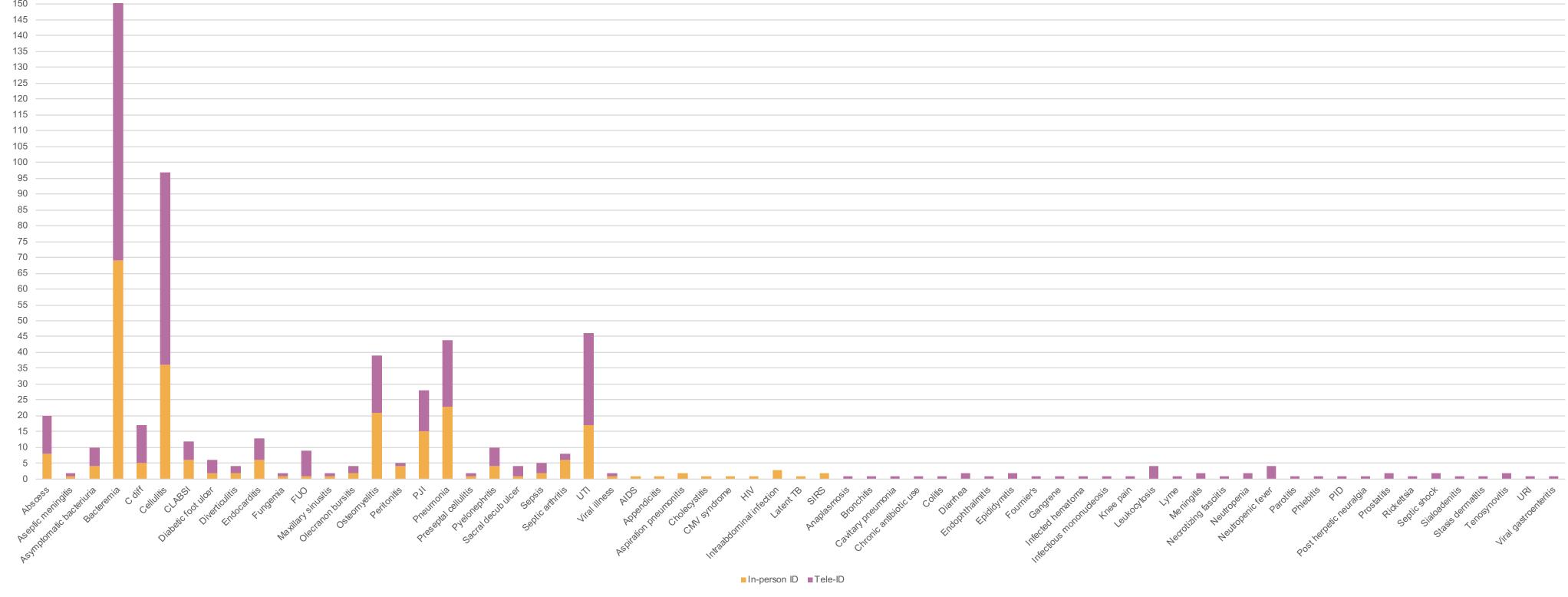
Decreased Antibiotic Purchasing Costs with Tele-ID at 2 Hospitals



Primary Outcomes of Consulted Patients



Wider Variety of Diagnosis with Tele-ID at all 3 Hospitals



CONCLUSIONS

- Patient outcomes are SIMILAR, despite higher volume and complexity encountered by tele-ID
- HIGHER number of consults + BROADER diagnosis -> GREATER productivity and NO travel burden
- Trend toward DECREASED antibiotic costs suggests IMPROVED antibiotic utilization
 Limited by single site, small sample size and possible temporal bias

Tele-ID is a suitable alternative to in-person ID care in rural settings